## **CLAIMS**

- Method for the prognosis and/or diagnosis of diseases associated with at least one of the polymorphisms 8, 12, 13 in the NOD2/CARD15 gene by detection of at least one of the polymorphisms Nod2-SNP8, Nod2-SNP12, Nod2-SNP13 in the NOD2/CARD15 gene.
- 2. Method according to claim 1, wherein the diseases associated with at least 10 one of the polymorphism Nod2-SNP8, Nod2-SNP12, Nod2-SNP13 in the NOD2/CARD15 rejection gene are responses occurring after transplantations, graft versus host diseases, host versus graft diseases, sepsis, lung diseases, monocyte dependant and/ or macrophage dependant diseases, lymphoma, leukemia and/ or diseases associated with a disorder 15 of the NFkappaB signal transduction pathway.
  - 3. Method according to one of the claims 1 or 2 comprising the following steps:
    - a) providing a sample containing the NOD2/CARD15 gene or respectively NOD2/CARD15 nucleic acids,
- b) examination of the NOD2/CARD15 gene for the presence of at least one of the polymorphisms Nod2-SNP8, Nod2-SNP12, Nod2-SNP13.
  - 4. Method according to one of the claims 1, 2 or 3 comprising the following steps:
    - a) providing a sample containing the gene NOD2/CARD15,
    - b) DNA and/ or RNA isolation from the sample,
    - c) performing a PCR with specific primers for the NOD2/CARD15 gene.
    - examination of the NOD2/CARD15 gene for the presence of at least one of the polymorphisms Nod2-SNP8, Nod2-SNP12, Nod2-SNP13.

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5. Method for the prognosis regarding the likelihood of an incidence of a rejection response after transplantations according to one of the preceding claims comprising the following steps:

- providing a sample of the donor containing the NOD2/CARD15 gene as well as a sample of the recipient containing the NOD2/CARD15 gene,
- d) detection of the two samples for the presence of one or more of the polymorphisms Nod2-SNP8, Nod2-SNP12, Nod2-SNP13.

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6. Oligonucleotide consisting of at least 10 nucleotides, wherein the oligonucleotide has a sequence which is complementary to the NOD2/CARD15 gene and contains the complementary nucleotide to the mutation SNP8 and/ or SNP 12 and/ or the nucleotide insertion SNP13.

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- 7. Oligonucleotide according to claim 6, wherein the oligonucleotide furthermore contains a detection tag.
- 8. Microchip comprising at least one oligonucleotide according to claim 6 or 7.

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